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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,726	05/31/2000	Geoffrey B. Rhoads	60208	4510

23735 7590 12/24/2003  
DIGIMARC CORPORATION  
19801 SW 72ND AVENUE  
SUITE 100  
TUALATIN, OR 97062

EXAMINER

MEISLAHN, DOUGLAS J

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/585,726

Applicant(s)

RHOADS, GEOFFREY B.

Examiner

Douglas J. Meislahn

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46-48, 52 and 53 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-15, 17-29, 33-35 and 38-45 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 16, 30-32, 36, 37 and 49-51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 14, 26, 44, 45, and 49-51 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The statutory class of the objected-to claims differs from that of their parent claims. The objected-to claims cannot limit their parent claim because of this difference in statutory class.
2. Claims 38 and 45 are objected to because of the following informalities: in claim 38, "is" should be "are" in the first line; in claim 45, "decoded" should be "decode". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 43 recites the limitation "the encoded source signal" in its second line. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2132

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2132

9. Claims 27, 28, 33-35, 44, and 45 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Powell et al. (5721788).

Powell et al. present a signature that is embedded within an image in lines 34-36 of column 2. The image reads on applicant's carrier signal and source signal. The signature is represented as a bit string. The bits from the bit string are represented by percentage adjustments to the pixels, where the percentages are used to insure that the pixels change when adjusted. As such the second clause of the claim is met. As told in the paragraph spanning columns 4 and 5, the pixels are changed according to the percentages, thereby anticipating clause c). The change in the pixel value is the processed datum. The signature is redundantly encoded throughout the image, as described in the abstract, which meets the limitations of the final clause. Claim 28 is anticipated because a processed datum is, while based on the source data, a function of the bit value that it represents. Claims 33-36 are anticipated because the signature in Powell et al. is redundantly recorded throughout the image and signature points are chosen based on features of the points other than their proximity to one another.

The examiner believes that the correct interpretation of the percentage change in Powell et al. entails multiplying the coordinates in the image by a multiplication factor, which would combine the second and third clauses of claim 27, which would null an anticipatory rejection. However, the two steps would be obvious from the multiplication. Furthermore, there are those that interpret the percentage change in Powell et al. as involving the creation of the change and

Art Unit: 2132

then the addition of the change to the pixels. From this standpoint, Powell et al. anticipates claim 27.

10. Claims 1, 2, 6-8, 10-14, 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al.

As to claim 29, Powell et al. teach a method of embedding a signature in an image or video (see abstract). They do not say that the method of embedding could also be implemented in audio data. Official notice is taken that it is old and well-known to practice watermarking techniques in audio, in addition to video, data. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made implement Powell et al.'s teaching in an audio system.

With respect to claim 1, Powell et al. describe auditing an image for a statistically significant number of signature points in lines 5-13 of column 5. Thus, the first clause of claim 1 is met. Powell et al. use redundant signatures in the data, and hence the second clause of claim 1 is rendered obvious. Finally, one of Powell et al.'s decoding techniques produces the signature (lines 11-13 of column 2), which meets the limitations of the final clause of claim 1. Comparing the values of redundant signatures to derive a correct signature is within the scope of statistical analysis presented by Powell et al., and thus claim 2 is rendered obvious. Claim 6 is rendered obvious because Powell et al.'s disclosure includes film. Claim 7 is obvious because of Powell et al.'s percentage change. Claim 8 is obvious because Powell et al. redundantly encode the signature. Claims 10-13 are rendered obvious because official notice

Art Unit: 2132

is taken that use of embedded watermarks to protect data in a number of ways, including copyright codes and data monitoring/reporting, is old and well-known.

11. Claims 3, 15, and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. as applied to claim 1 above, and further in view of Hirschberg (6003005).

Powell et al. teach a method of embedding redundant signatures in data. Powell et al. do not say that the statistical decoding is a statistical analysis of feature that produces code values. In lines 26-46 of column 7, Hirschberg teaches generating code (a set of decision nodes) based on a statistical analysis of information. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Hirschberg's data decoding scheme in Powell et al. in order to derive the data without needing comparison data. Claims 21-25 are rendered obvious because official notice is taken that use of embedded watermarks to protect data in a number of ways, including copyright codes, copy control, and data monitoring/reporting, is old and well-known.

12. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Szepanski ("A Signal Theoretic Method for Creating Forgery-Proof Documents for Automatic Verification").

Powell et al. teach a method of embedding redundant signatures in data. They do not say that the embedded signatures have border continuity. At the end of the introduction, Szepanski proposes a watermark pattern that "must extend over the whole area of the document to provide protection against

Art Unit: 2132

manipulations . . .” Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for the signatures in Powell et al. to cover the entire document and thus have border continuity. Szepanski has taught that this would protect against manipulations.

13. Claims 9 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Steynor et al. (4297729).

Powell et al. teach a method of embedding redundant signatures in data. They do not suggest concentrating processed data by filtering a frequency range. In their abstract, Steynor et al. describe imbuing data with a watermark that can prevent use of the data. The watermark is placed in the data using a filter that limits the frequency of the data, as seen in lines 27-47 of column 10. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to record Powell et al.’s signature using the techniques described by Steynor et al. in order to control use of the data.

14. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Sahay (4248528).

Powell et al. teach a method of embedding redundant signatures in data. They do not say that the watermark includes a copy control signal. In the paragraph spanning columns 9 and 10, Sahay teaches including a code that instructs a copier to not copy a document that bears the code. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include copy control code in Powell et al.’s signatures in order to control the proliferation of the document. With respect to claim 42, Sahay’s code



Art Unit: 2132

disables recording capability. Claim 43 is rendered obvious because Powell et al. teach including a source's identity in the watermarks, as discussed in lines 45-48 of column 1.

***Allowable Subject Matter***

15. Claims 4, 5, 16, 30-32, 36, and 37 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 46-53 are allowed.

***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sanford, II et al. (5727092 and 5659726) and Bozinovic et al. (5452371).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Meislahn whose telephone number is (703) 305-1338. The examiner can normally be reached on between 9 AM and 6 PM, Monday through Thursday.

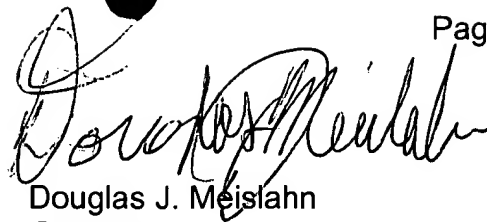
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barrón can be reached on (703) 305-1830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Application/Control Number: 09/585,726

Art Unit: 2132

Page 9

A handwritten signature in black ink, appearing to read "Douglas J. Meislahn", written in a cursive style.

Douglas J. Meislahn  
Examiner  
Art Unit 2132

DJM